

CPC**COOPERATIVE PATENT CLASSIFICATION****E04D****ROOF COVERINGS; SKY-LIGHTS; GUTTERS; ROOF-WORKING TOOLS** (coverings of outer walls by plaster or other porous material [E04F 13/00](#))**NOTE**

In this subclass, the following expression is used with the meaning indicated:

- "roof coverings" includes any similar kind of watertight covering against rain, snow, hail, or the like, for other parts of buildings

WARNING

[C2010.08]

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

[E04D 3/3645](#) covered by [E04D 3/363](#)
[E04D 3/367](#) " " [E04D 3/364](#)
[E04D 13/18](#) " " [F24J 2/00](#), [H01L 31/048B](#)

E04D 1/00**Roof covering by making use of tiles, slates, shingles, or other small roofing elements** (roofing supports {and underlayers}[E04D 12/00](#))

- E04D 1/02 . Grooved or vaulted roofing elements ([E04D 1/28](#), [E04D 1/30](#) take precedence)
- E04D 1/025 .. { Diamond shaped and installed in diagonal lines}
- E04D 1/04 .. of ceramics, glass or concrete, with or without reinforcement
- E04D 1/045 ... { Vaulted roofing elements laid alternately side-up and side-down}
- E04D 1/06 .. of metal
- E04D 1/08 .. of plastics; { of asphalt; } of fibrous materials { or wood}
- E04D 1/085 ... { of wood}
- E04D 1/10 .. of specified materials { not covered by any one of groups [E04D 1/04](#) to [E04D 1/085](#)}, or of combinations of materials, { where at least one is } not covered by any one of groups [E04D 1/04](#) to [E04D 1/085](#)
- E04D 1/12 . Roofing elements shaped as plain tiles or shingles, i.e. with flat outer surface ([E04D 1/28](#), [E04D 1/30](#) take precedence)
- E04D 1/125 .. { Diamond shaped and installed in diagonal lines}
- E04D 1/14 .. of slate material, with or without fastening means
- E04D 1/16 .. of ceramics, glass or concrete, with or without reinforcement
- E04D 1/18 .. of metal
- E04D 1/20 .. of plastics; { of asphalt; } of fibrous materials, or wood
- E04D 1/205 ... { of wood}
- E04D 1/22 .. of specified materials { not covered by any one of groups [E04D 1/14](#) to

}, or of combinations of materials, { where at least one is} not covered by any one of groups [E04D 1/14](#) to [E04D 1/205](#)

- [E04D 1/24](#) . Roofing elements with cavities, e.g. hollow tiles ([E04D 1/28](#) takes precedence)
- [E04D 1/26](#) . Strip-shaped roofing elements appearing as a row of shingles
- [E04D 1/265](#) .. { the roofing elements being rigid, e.g. made of metal, wood or concrete}
- [E04D 1/28](#) . Roofing elements comprising two or more layers, e.g. for insulation
- [E04D 1/30](#) . Special roof-covering elements, e.g. ridge tiles, gutter tiles, gable tiles, ventilation tiles ([E04D 3/40](#), {[E04D 13/03](#), [E04D 13/14](#)} take precedence)
- [E04D 1/34](#) . Fastenings for attaching roof-covering elements to the supporting elements
- [E04D 1/3402](#) .. {for ridge or roofhip tiles}
- [E04D 1/3405](#) .. {for eaves -, valley - or verge tiles}
- [E04D 1/36](#) . Devices for sealing the spaces or joints between roof-covering elements (sealing joints not restricted to roof-covering elements [E04B 1/68](#); {channels at the intersection of roof surfaces [E04D 13/0445](#)})
- [E04D 1/365](#) .. { Sealing strips between lateral sides of roof-covering elements}
- [E04D 3/00](#) Roof covering by making use of flat or curved slabs or stiff sheets ([E04D 1/00](#) takes precedence; built-up roofs [E04D 11/02](#))**
- [E04D 3/02](#) . of plane slabs, slates, or sheets, or in which the cross-section is unimportant ([E04D 3/35](#) takes precedence)
- [E04D 3/04](#) .. of concrete or ceramics (of asbestos cement [E04D 3/18](#))
- [E04D 3/06](#) .. of glass or other translucent material; Fixing means therefor (fixing glass panes by means applicable to windows [E06B 3/54](#))
- [E04D 3/08](#) ... with metal glazing bars
- [E04D 3/14](#) ... with glazing bars of other material, e.g. of glass
- [E04D 3/16](#) .. of metal
- [E04D 3/18](#) .. of specified materials, or of combinations of materials, not covered by any of groups [E04D 3/04](#), [E04D 3/06](#) or [E04D 3/16](#)
- [E04D 3/24](#) . with special cross-section, e.g. with corrugations on both sides, with ribs, flanges, or the like ([E04D 3/35](#) takes precedence)
- [E04D 3/26](#) .. of concrete or ceramics
- [E04D 3/28](#) .. of glass {or other translucent material}
- [E04D 3/30](#) .. of metal
- [E04D 3/32](#) .. of plastics, fibrous materials, or asbestos cement
- [E04D 3/34](#) .. of specified materials, or of combinations of materials, not covered by any one of groups [E04D 3/26](#) to [E04D 3/32](#)
- [E04D 3/35](#) . Roofing slabs or stiff sheets comprising two or more layers, e.g. for insulation {(self-supporting roofing slabs laminated with layers of insulating material [E04B 7/22](#); insulating devices or arrangements in the roof covering [E04D 13/16](#); connecting, fastening of double roof covering [E04D 3/3608](#))}

- E04D 3/351 .. {at least one of the layers being composed of insulating material, e.g. fibre or foam material}
- E04D 3/352 ... {at least one insulating layer being located between non-insulating layers, e.g. double skin slabs or sheets}
- E04D 3/354 ... {more than one of the layers being composed of insulating material}
- E04D 3/355 ... {the insulating layers of adjacent slabs having cooperating edges}
- E04D 3/357 .. {comprising hollow cavities}
- E04D 3/358 .. {with at least one of the layers being offset with respect to another layer}

- E04D 3/36 . Connecting; Fastening
- E04D 3/3601 .. {of roof covering supported by the roof structure with interposition of a insulating layer ([E04D 3/3607](#), [E04D 3/3608](#), [E04D 3/361](#) to [E04D 3/369](#) take precedence)}
- E04D 3/3602 ... { The fastening means comprising elongated profiles installed in or on the insulation layer}
- E04D 3/3603 ... {the fastening means being screws or nails}
- E04D 3/3605 .. {of roof covering supported directly by the roof structure ([E04D 3/3607](#), [E04D 3/3608](#), [E04D 3/361](#) to [E04D 3/369](#) take precedence)}
- E04D 3/3606 ... {the fastening means being screws or nails}
- E04D 3/3607 .. {the fastening means comprising spacer means adapted to the shape of the profiled roof covering}
- E04D 3/3608 .. {for double roof covering or overroofing}

NOTE

In groups [E04D 3/361](#) to [E04D 3/368](#), additional small fastening elements, e.g. nails, screws, are not to be considered to be separate connecting elements.

- E04D 3/361 .. by specially-profiled marginal portions of the slabs or sheets
- E04D 3/362 ... by locking the edge of one slab or sheet within the profiled marginal portion of the adjacent slab or sheet, e.g. using separate connecting elements
- E04D 3/363 ... with snap action ([E04D 3/366](#) takes precedence)
- E04D 3/364 ... by folding of the edges
- E04D 3/365 .. by simple overlapping of the marginal portions with use of separate connecting elements, e.g. hooks or bolts for corrugated sheets
- E04D 3/366 .. by closing the space between the slabs or sheets by gutters, bulges, or bridging elements, e.g. strips
- E04D 3/368 .. by forcing together the marginal portions of adjacent slabs or sheets
- E04D 3/369 .. by welding of the marginal portions of adjacent slabs or sheets {also by soldering, glueing}
- E04D 3/38 . Devices for sealing spaces or joints between roof-covering elements ([E04D 3/36](#) takes precedence; sealing joints not restricted to roof-covering elements [E04B 1/68](#))
- E04D 3/40 . Slabs or sheets locally modified for auxiliary purposes, e.g. for resting on walls, for serving as guttering; Elements for particular purposes, e.g. ridge elements, specially designed for use in conjunction with slabs or sheets ({[E04D 13/15](#) and [E04D 13/16C4](#) take precedence; ridge sealing [E04D 1/36](#); solar collectors [F24J 2/00](#); photovoltaic devices [H01L 31/00](#))}
- E04D 3/405 .. {Wall copings}

E04D 5/00 **Roof covering by making use of flexible material, e.g. supplied in roll form** (using stiff sheets [E04D 3/00](#); gravelling of flat roofs [E04D 7/00](#); {granulated roof covering [E04D 7/005](#)}; built-up roofs [E04D 11/02](#))

NOTE

Group [E04D 5/12](#) takes precedence over groups [E04D 5/02](#) to [E04D 5/10](#)

- [E04D 5/02](#) . of materials impregnated with sealing substances, e.g. roofing felt
- [E04D 5/04](#) . by making use of metal foils
- [E04D 5/06](#) . by making use of plastics
- [E04D 5/08](#) . by making use of other materials
- [E04D 5/10](#) . by making use of compounded or laminated materials, e.g. metal foils or plastic films coated with bitumen
- [E04D 5/12](#) . specially modified, e.g. perforated, with granulated surface, with attached pads
- [E04D 5/14](#) . Fastening means therefor
 - [E04D 5/141](#) .. {characterised by the location of the fastening means}
 - [E04D 5/142](#) ... {along the edge of the flexible material}
 - [E04D 5/143](#) ... {in the field of the flexible material}
 - [E04D 5/144](#) .. {Mechanical fastening means}
 - [E04D 5/145](#) ... {Discrete fastening means, e.g. discs or clips}
 - [E04D 5/146](#) ... { Linear fastening means, e.g. strips}
 - [E04D 5/147](#) ... {not perforating the flexible material}
 - [E04D 5/148](#) .. {fastening by gluing}
 - [E04D 5/149](#) .. {fastening by welding}

E04D 7/00 **Roof covering {exclusively consisting of} sealing masses applied in situ; Gravelling of flat roofs**

- [E04D 7/005](#) . {characterised by loose or embedded gravel or granules as an outer protection of the roof covering}

E04D 9/00 **Roof covering by using straw, thatch, or like materials** (impregnation against incendiary damage [B27K](#))

E04D 11/00 **Roof covering, as far as not restricted to features covered by only one of groups [E04D 1/00](#) to [E04D 9/00](#); Roof covering in ways not provided for by groups [E04D 1/00](#) to [E04D 9/00](#), {e.g. built-up roofs, elevated load-supporting roof coverings}**

- [E04D 11/002](#) . {consisting of two or more layers, at least one of the layers permitting turving of the

- roof}
- E04D 11/005 . { Supports for elevated load-supporting roof coverings [M1207]
 - E04D 11/007 .. { Height-adjustable spacers}
 - E04D 11/02 . Build-up roofs, i.e. consisting of two or more layers bonded together in situ, at least one of the layers being of watertight composition ([gravelling of flat roofs E04D 7/00](#); [venting or ventilation E04D 13/17](#))
- E04D 12/00** **Non-structural supports for roofing materials, e.g. battens, boards** ([E04D 11/02](#){and [E04D 13/16](#)} take precedence; {self-supporting slabs with non-structural supports for roofing materials [E04B 7/205](#)})
- E04D 12/002 . {Sheets of flexible material, e.g. roofing tile underlay}
 - E04D 12/004 . {Battens}
 - E04D 12/006 .. {Batten-supporting means}
 - E04D 12/008 ... {Ridge-batten brackets}
- E04D 13/00** **Special arrangements or devices in connection with roof coverings;** {Protection against birds}; **Roof drainage;** {Sky-lights}{ventilation tiles [E04D 1/30](#); ventilation slabs [E04D 3/40](#); internal channels [E04F 17/00](#); elements therefor, see the relevant groups}
- E04D 13/002 . {Provisions for preventing vegetational growth, e.g. fungi, algae or moss}
 - E04D 13/004 . {Protection against birds, mice or the like ([scaring devices for birds in general A01M 29/00](#))}
 - E04D 13/006 . { Provisions for detecting water leakage}
 - E04D 13/008 . { Provisions for reducing rain noise}
 - E04D 13/02 . Roof-covering aspects of dormer windows ([E04D 13/14](#) takes precedence; structures therefor [E04B 7/18](#))
 - E04D 13/03 . Sky-lights; Domes; Ventilating sky-lights ([E04D 13/14](#) takes precedence; structures therefor, {e.g. dormer windows}[E04B 7/18](#); {saw-tooth roofs with light-transmission [E04B 7/12](#)})
 - E04D 13/0305 .. {Supports or connecting means for sky-lights of flat or domed shape}
 - E04D 13/031 ... {characterised by a frame for connection to an inclined roof}
 - E04D 13/0315 ... {characterised by a curb frame}
 - E04D 13/032 .. {Supports or connecting means for sky-lights of vaulted shape}
 - E04D 13/0325 .. {provided with ventilating means ([roof ventilation F24F 7/02](#))}
 - E04D 13/033 .. {provided with means for controlling the light-transmission or the heat-reflection, ([e.g. shields, reflectors, cleaning devices](#))}
 - E04D 13/0335 .. {Skylight guards, security devices protecting skylights or preventing objects or persons from falling through skylight openings}
 - E04D 13/035 .. characterised by having movable parts {(preventing the spread of fire [A62C 3/00](#);

roof structures with movable roof parts [E04B 7/16](#); operating mechanisms for sky-lights [E05F 11/00](#); automatically acting closers [E05F 17/00](#)}}

- E04D 13/0351 ... {the parts pivoting about a fixed axis}
- E04D 13/0352 {the parts being of domed or pyramidal shape}
- E04D 13/0354 {the parts being flat}
- E04D 13/0355 { The parts being of vaulted shape}
- E04D 13/0357 ... {the parts pivoting about an axis supported on a hinged frame or arms}
- E04D 13/0358 ... {the parts moving, in their own plane, e.g. rolling or sliding, or moving in parallel planes with or without an additional movement, e.g. both pivoting and rolling or sliding}

- E04D 13/04 . Roof drainage; Drainage fittings in flat roofs, {balconies or the like}{gutter tiles [E04D 1/30](#); gutter slabs [E04D 3/40](#); {vessels for collecting rainwater [E03B 3/03](#); street gullies [E03F 5/04](#)}
- E04D 13/0404 .. {Drainage on the roof surface}
- E04D 13/0409 ... {Drainage outlets, e.g. gullies}
- E04D 13/0431 {with horizontal evacuation over the border of the roof}
- E04D 13/0445 ... {Drainage channels}
- E04D 13/0459 ... {Drainage borders, e.g. dripping edges, gravel stops or dispersers}
- E04D 13/0477 ... {Underroof drainage layers (layers permitting turfing of the roof [E04D 11/002](#))}
- E04D 13/0481 ... {Drainage guiding provisions, e.g. deflectors or stimulation by inclined surfaces}
- E04D 13/064 .. Gutters {drainage channels on the roof surface **E04D 13/04B3**; gutters for greenhouses [A01G 9/1476](#)}
- E04D 13/0641 ... { Gutter ends}
- E04D 13/0643 ... { Gutter corners}
- E04D 13/0645 ... { Connections between gutter and down pipe}
- E04D 13/0646 ... { made of concrete or stone-like material}
- E04D 13/0648 ... { comprising provisions for heat insulation, e.g. an insulation layer}
- E04D 13/068 Means for fastening gutter parts together
- E04D 13/0685 {in combination with hanging means}
- E04D 13/072 ... Hanging means (in combination with means for fastening gutter parts together {[E04D 13/0685](#)})
- E04D 13/0722 { extending mainly under the gutter}
- E04D 13/0725 { situated above or inside the gutter}
- E04D 13/0727 { situated mainly at the rear side of the gutter}
- E04D 13/076 .. Devices or arrangements for removing snow, ice or debris from gutters or for preventing accumulation thereof
- E04D 13/0762 ... { De-icing devices or snow melters}
- E04D 13/0765 ... {Cleaning tools}
- E04D 13/0767 ... { Strainers at connection between gutter and down pipe}
- E04D 13/08 .. Down pipes; Special clamping means therefor (clamping pipes in general [F16B](#), [F16L](#))

- E04D 13/10 . Snow traps; {Removing snow from roofs; Snow melters}
- E04D 13/103 .. { De-icing devices or snow melters (for drainage outlets [E04D 13/0409](#), for gutters [E04D 13/0762](#), for down pipes [E04D 13/08](#))}

- E04D 13/106 .. { Snow removing devices (for gutters [E04D 13/076](#))}
- E04D 13/12 . Devices or arrangements allowing walking on the roof or in the gutter
- E04D 13/14 . Junctions of roof sheathings to chimneys or other parts extending above the roof
- E04D 13/1407 .. {for flat roofs}
- E04D 13/1415 ... {Junctions to walls extending above the perimeter of the roof (trimming strips, edge strips or fascias retaining the roof sheathing [E04D 13/155](#))}
- E04D 13/143 .. with ventilating means {in junctions of roof sheathings to parts extending above the roof}
- E04D 13/147 .. specially adapted for inclined roofs {trays for cavity walls [E04B 1/70](#)}
- E04D 13/1471 ... { using a hinge mechanism for adaptation to the inclined roof}
- E04D 13/1473 ... { specially adapted to the cross-section of the parts extending above the roof}
- E04D 13/1475 { wherein the parts extending above the roof have a generally rectangular cross-section}
- E04D 13/1476 { wherein the parts extending above the roof have a generally circular cross-section}
- E04D 13/1478 ... { Junctions to walls extending above the roof}
- E04D 13/15 . Trimming strips; Edge strips; Fascias; {Expansion joints for roofs (wall copings [E04D 3/405](#); drainage borders [E04D 13/0459](#); joints in general [E04B 1/68](#))}
- E04D 13/151 .. {Expansion joints for roofs}
- E04D 13/152 .. with ventilating means {in soffits or fascias; (on the eaves of the roof [E04D 13/178](#))}
- E04D 13/155 .. retaining the roof sheathing
- E04D 13/158 .. covering the overhang at the eave side, e.g. soffits, or the verge of saddle roofs
- E04D 13/1585 ... {covering the verge of saddle roofs (gable tiles [E04D 1/30](#))}
- E04D 13/16 . Insulating devices or arrangements in so far as the roof covering is concerned, {e.g. characterised by the material or composition of the roof insulating material or its integration in the roof structure}
- E04D 13/1606 .. { Insulation of the roof covering characterised by its integration in the roof structure (self-supporting insulating slabs [E04B 7/20A](#), [E04B 7/20B2](#))}
- E04D 13/1612 ... { the roof structure comprising a supporting framework of roof purlins or rafters}
- E04D 13/1618 {with means for fixing the insulating material between the roof covering and the upper surface of the roof purlins or rafters}
- E04D 13/1625 {with means for supporting the insulating material between the purlins or rafters (insulating layers disposed between two longitudinal supporting elements [E04B 1/7654](#))}
- E04D 13/1631 {the means deriving from the nature or the shape of the insulating material itself}
- E04D 13/1637 {the roof purlins or rafters being mainly insulated from the interior, e.g. the insulating material being fixed under or suspended from the supporting framework}
- E04D 13/1643 ... { the roof structure being formed by load bearing corrugated sheets, e.g. profiled sheet metal roofs}
- E04D 13/165 {Double skin roofs}
- E04D 13/1656 { Closure strips or elements filling the spaces between the corrugated sheets}

- and a supporting wall}
- E04D 13/1662 . . . { Inverted roofs or exteriorly insulated roofs}
- E04D 13/1668 . . . {the insulating material being masses or granules applied in situ}
- E04D 13/1675 {on saddle-roofs or inclined roof surfaces}
- E04D 13/1681 . . . { Insulating of pre-existing roofs with or without ventilating arrangements}
- E04D 13/1687 . . {the insulating material having provisions for roof drainage}
- E04D 13/1693 . . . {the upper surface of the insulating material forming an inclined surface}

- E04D 13/17 . . Ventilation of roof coverings not otherwise provided for ([ventilation of rooms or spaces F24F](#))
- E04D 13/172 . . { Roof insulating material with provisions for or being arranged for permitting ventilation of the roof covering}
- E04D 13/174 . . {on the ridge of the roof}
- E04D 13/176 . . . { formed by flexible material suitable to be rolled up}
- E04D 13/178 . . {on the eaves of the roof}

- E04D 15/00 Apparatus or tools for roof working**

- E04D 15/003 . . {for removing roof material (for floor coverings [E04G 23/006](#))}
- E04D 15/006 . . { for cleaning the roof (for cleaning gutters [E04D 13/0765](#); for removing snow from roofs [E04D 13/106](#))}
- E04D 15/02 . . for roof coverings comprising tiles, shingles, or like roofing elements {([E04D 15/003 takes precedence](#))}
- E04D 15/025 . . { Templates, gauges or spacers for installing roof tiles or roof laths (templates for rafters [E04G 21/1891](#))}
- E04D 15/04 . . for roof coverings comprising slabs, sheets or flexible material
- E04D 15/06 . . for handling roofing or sealing material in roll form
- E04D 15/07 . . for handling roofing or sealing material in bulk form

- E04D 2001/00 Roof covering by making use of tiles, slates, shingles, or other small roofing elements (roofing supports {and underlayers}[E04D 12/00](#))**

- E04D 2001/005 . . the roofing elements having a granulated surface
- E04D 2001/30 . . Special roof-covering elements, e.g. ridge tiles, gutter tiles, gable tiles, ventilation tiles ([E04D 3/40](#), {[E04D 13/03](#), [E04D 13/14](#)} take precedence)
- E04D 2001/301 . . . at roof edges, e.g. intersections with walls
- E04D 2001/302 . . . Gable tiles
- E04D 2001/303 . . . Eave tiles
- E04D 2001/304 . . . at roof intersections, e.g. valley tiles, ridge tiles

- E04D 2001/305 . . . Ridge or hip tiles
- E04D 2001/306 Under-ridge tiles
- E04D 2001/307 . . for passages in the roof surface
- E04D 2001/308 . . for special purposes not otherwise provided for, e.g. turfing tiles, step tiles
- E04D 2001/309 . . Ventilation tiles

- E04D 2001/34 . Fastenings for attaching roof-covering elements to the supporting elements
 - E04D 2001/3408 . . characterised by the fastener type or material
 - E04D 2001/3411 . . . Metal wires or rods
 - E04D 2001/3414 . . . Metal strips or sheet metal
 - E04D 2001/3417 . . . Synthetic, composite or molded material
 - E04D 2001/342 . . . Flexible filamentous ties, e.g. to be twisted or forming nets
 - E04D 2001/3423 . . . Nails, rivets, staples or straps piercing or perforating the roof covering material
 - E04D 2001/3426 . . . Threaded elements
 - E04D 2001/3429 . . . Press-studs elements
 - E04D 2001/3432 . . . Strips covering the gap between the roof covering elements
 - E04D 2001/3435 . . . Adhesive, hardenable or heat-sensitive material
 - E04D 2001/3438 . . . Fasteners comprising several coating elements
 - E04D 2001/3441 . . . Series of easily separable fasteners
 - E04D 2001/3444 . . characterised by the roof covering or structure with integral or premounted fastening means
 - E04D 2001/3447 . . . the fastening means being integral or premounted to the roof covering
 - E04D 2001/345 . . . the fastening means being integral or premounted to the roof structure
 - E04D 2001/3452 . . characterised by the location of the fastening means
 - E04D 2001/3455 . . . on the internal surface of the roof covering elements
 - E04D 2001/3458 . . . on the upper or lower transverse edges of the roof covering elements
 - E04D 2001/3461 . . . on the lateral edges of the roof covering elements
 - E04D 2001/3464 . . . on the lateral corners of the roof covering elements for diagonally tiled roofs
 - E04D 2001/3467 . . . through apertures, holes or slots
 - E04D 2001/347 . . characterised by the fastening pattern
 - E04D 2001/3473 . . . fastening single roof elements to the roof structure with or without indirect clamping of neighbouring roof covering elements
 - E04D 2001/3476 . . . the fastening means taking hold directly on adjacent elements of the same row and fastening them simultaneously to the roof structure
 - E04D 2001/3479 . . . the fastening means taking hold directly on adjacent elements of the same row and fastening them only to each other
 - E04D 2001/3482 . . . the fastening means taking hold directly on elements of succeeding rows and fastening them simultaneously to the structure
 - E04D 2001/3485 . . . the fastening means taking hold directly on elements of succeeding rows and fastening them only to each other
 - E04D 2001/3488 . . characterised by the type of roof covering elements being fastened
 - E04D 2001/3491 . . . made of flexible material, e.g. shingles
 - E04D 2001/3494 . . . made of rigid material having a flat external surface
 - E04D 2001/3497 . . . Spanish type tiles

- E04D 2003/00** **Roof covering by making use of flat or curved slabs or stiff sheets** ([E04D 1/00](#) takes precedence; built-up roofs [E04D 11/02](#))
- E04D 2003/02 . . of plane slabs, slates, or sheets, or in which the cross-section is unimportant ([E04D 3/35](#) takes precedence)
- E04D 2003/06 . . . of glass or other translucent material; Fixing means therefor ([fixing glass panes by means applicable to windows E06B 3/54](#))
- [E04D 2003/065](#) Corner- or point-supported glazing
- E04D 2003/08 with metal glazing bars
- [E04D 2003/0806](#) the supporting section of the glazing bar consisting of one single extruded or rolled metal part
- [E04D 2003/0812](#) the supporting section of the glazing bar consisting of one single bent or otherwise deformed sheetmetal
- [E04D 2003/0818](#) the supporting section of the glazing bar consisting of several parts, e.g. compound sections
- [E04D 2003/0825](#) the metal section covered by parts of other material
- [E04D 2003/0831](#) Glazing gaskets of particular shape
- [E04D 2003/0837](#) Sections comprising intermediate parts of insulating material
- [E04D 2003/0843](#) Clamping of the sheets or glass panes to the glazing bars by means of covering strips
- [E04D 2003/085](#) locked by snap action
- [E04D 2003/0856](#) locked by screws, bolts or pins
- [E04D 2003/0862](#) by means of separate clips or hooks
- [E04D 2003/0868](#) Mutual connections and details of glazing bars
- [E04D 2003/0875](#) on the ridge of the roof or on intersecting roof parts
- [E04D 2003/0881](#) on the eaves of the roof
- [E04D 2003/0887](#) Glazing bars for coverings consisting of more than one sheet or glass pane
- [E04D 2003/0893](#) Glazing bars comprising means for draining condensation water or infiltrated rainwater
- E04D 2003/24 . . with special cross-section, e.g. with corrugations on both sides, with ribs, flanges, or the like ([E04D 3/35](#) takes precedence)
- E04D 2003/28 . . . of glass {or other translucent material}
- [E04D 2003/285](#) with specially profiled marginal portions for connecting purposes
- E04D 2003/36 . . Connecting; Fastening
- E04D 2003/361 . . . by specially-profiled marginal portions of the slabs or sheets
- [E04D 2003/3612](#) Separate fastening elements fixed to the roof structure and comprising plastic parts for avoiding thermal bridges
- [E04D 2003/3615](#) Separate fastening elements fixed to the roof structure and consisting of parts permitting relative movement to each other, e.g. for thermal expansion
- [E04D 2003/3617](#) with locking or snapping edges located in the thickness of the slab or sheet
- E04D 2013/00** **Special arrangements or devices in connection with roof coverings; {Protection against birds}; Roof drainage; {Sky-lights}{ventilation tiles [E04D 1/30](#); ventilation slabs**

[E04D 3/40](#); internal channels [E04F 17/00](#); elements therefor, see the relevant groups)

- E04D 2013/03 . Sky-lights; Domes; Ventilating sky-lights ([E04D 13/14](#) takes precedence; structures therefor, {e.g. dormer windows} [E04B 7/18](#); {saw-tooth roofs with light-transmission [E04B 7/12](#)})
- E04D 2013/034 .. Daylight conveying tubular skylights
- E04D 2013/0345 ... with skylight shafts extending from roof to ceiling
- E04D 2013/04 . Roof drainage; Drainage fittings in flat roofs, {balconies or the like} (gutter tiles [E04D 1/30](#); gutter slabs [E04D 3/40](#); {vessels for collecting rainwater [E03B 3/03](#); street gullies [E03F 5/04](#))
- E04D 2013/0404 .. {Drainage on the roof surface}
- E04D 2013/0409 ... {Drainage outlets, e.g. gullies}
- E04D 2013/0413 Strainers for drainage outlets
- E04D 2013/0418 with de-icing devices or snow melters
- E04D 2013/0422 for draining water above the roof level, e.g. gullies with overflow ports
- E04D 2013/0427 with means for controlling the flow in the outlet
- E04D 2013/0436 with sealing means
- E04D 2013/044 on multiple levels
- E04D 2013/0445 ... {Drainage channels}
- E04D 2013/045 on inclined roofs
- E04D 2013/0454 at the intersection of roof surfaces, e.g. roof valleys
- E04D 2013/0459 ... {Drainage borders, e.g. dripping edges, gravel stops or dispersers}
- E04D 2013/0463 Dispersers
- E04D 2013/0468 Drip edges
- E04D 2013/0472 Gravel stops
- E04D 2013/0481 ... {Drainage guiding provisions, e.g. deflectors or stimulation by inclined surfaces}
- E04D 2013/0486 Deflectors
- E04D 2013/049 ... of condensation water or infiltrated rainwater
- E04D 2013/0495 ... to storage tanks
- E04D 2013/08 .. Down pipes; Special clamping means therefor ([clamping pipes in general F16B, F16L](#))
- E04D 2013/0806 ... Details of lower end of down pipes, e.g. connection to water disposal system
- E04D 2013/0813 Water diverters
- E04D 2013/082 ... Down pipe branches
- E04D 2013/0826 ... Passages of down pipes through walls or floors
- E04D 2013/0833 ... Elbow pieces
- E04D 2013/084 ... Means for fixing down pipes to structure
- E04D 2013/0846 ... Interconnecting down pipe parts
- E04D 2013/0853 ... Valves for controlling the rain water flow
- E04D 2013/086 ... Filters
- E04D 2013/0866 ... Access opening for cleaning; Devices for avoiding cumulation of debris
- E04D 2013/0873 ... Rain water reservoirs integrated in down pipes

- [E04D 2013/088](#) . . . D-icing devices or snow melters
- [E04D 2013/0886](#) . . . Devices for preventing climbing on down pipes
- [E04D 2013/0893](#) . . . incorporated in building structure

- [E04D 2013/14](#) . Junctions of roof sheathings to chimneys or other parts extending above the roof
- [E04D 2013/1422](#) . . Parapet building elements for retaining the roof flashing

E04D 2015/00 Apparatus or tools for roof working

- [E04D 2015/04](#) . for roof coverings comprising slabs, sheets or flexible material
- [E04D 2015/042](#) . . Fixing to the roof supporting structure
- [E04D 2015/045](#) . . . by nailing
- [E04D 2015/047](#) . . . by screwing